

REMARKS

Claims 1-21, 24-44, 46-49 and 53-55 are still pending in this application. Reconsideration of the application is earnestly requested.

The Office action has rejected claims 1-14, 16-21, 32, 34-37, 42-44, 47-49 and 53-55 under §102(b) as being anticipated by *Chim et al. (Chim)*. Although the Examiner's arguments have been carefully considered, Applicant respectfully traverses these rejections as explained below.

Claim Objections

The Office action has objected to claims 24, 28, 46 and 55. Applicant submits that the above amendments to these claims address the objections and requests that the objections be withdrawn.

The Present Invention

As described in the last reply, a media content pickup device (such as a video camera connected to a computer) is able to focus on a particular portion of its field of view based upon user input without moving the video camera. In other words, the field of view 412 of the camera does not change, but the focus direction does change in order to focus on a different object selected by the user (Figures 4C-4F). Having a camera that does not need to physically move in order to refocus on a particular object in the field of view is advantageous for a user with a camera that physically cannot move or for a camera that does not have sophisticated panning or tilting capability.

The Cited Art Distinguished

By contrast, *Chim* discloses a video camera that physically moves in order to change its focus direction or uses scaling and cropping of an image that does not involve refocusing. Regarding the disclosure that the video camera move, *Chim* discloses in many places that the camera does, in fact, move. Column 4, lines 48-63 disclose panning the camera (*i.e.*, moving the camera) in order to track the speaker. Likewise, column 5, line 60 through column 6, line 20 discloses the camera tracking a moving speaker. Column 8 also discloses "constant direction and redirection of the camera," making it clear that the camera does move.

It is noted that the Office action at pages 5-6 cites column 4, lines 16-24 as disclosing a media content pickup device that automatically focuses on a user-specified region of interest without moving the media content pickup device. Respectfully, it is pointed out that this portion of *Chim* only discloses a camera with a wide field of view that enables scaling and cropping. Scaling and cropping are also discussed at column 6, lines 30-46 and at column 8, lines 41-44. As known to one of skill in the art, scaling and cropping do not involve focusing or refocusing of the camera, and in fact, scaling and cropping are performed upon an image that has already been received, *i.e.*, the image already has a particular focus.

As known in the art, image scaling is the process of enlarging or reducing (*i.e.*, resizing) a digital image. Enlarging an image may make the image appear rough or soft, while reducing an image makes the image appear smoother or sharper. Images are reduced using subsampling or downsampling, while images are enlarged using different methods. Examples of methods to enlarge an image include nearest neighbor interpolation, bilinear interpolation or bicubic interpolation. None of these techniques involve focusing or refocusing on a particular region in an image.

Similarly, cropping of an image is also known in the art. Cropping refers to deleting the outer parts of an image to improve framing, emphasize particular subject matter or to change the aspect ratio of the image. Cropping is typically performed on a physical photograph or upon a digital image using image editing software. In general, cropping is used to improve the overall composition of an existing image. As with scanning, cropping does not involve focusing or refocusing on a particular region of the image.

For these reasons, Applicant disagrees with the assertion in the Office action that the scaling and cropping of *Chim* are somehow equivalent to automatically focusing on a particular region of an image without moving a camera.

Claim 1

Claim 1 is directed toward an electronic device having a media content pickup device (such as a video camera) where the media content pickup device is "arranged to automatically focus on a user-specified region of interest without moving the media content pickup device." By contrast, *Chim* does not disclose this limitation because scaling and cropping do not involve focusing on a particular region of interest. In fact, scaling and cropping occur after a camera has

focused upon an image and that image has been captured digitally. For at least this reason, it is requested that the rejection of claim 1 be withdrawn.

Claim 12

Claim 12 is directed toward a computer system having a camera where the camera is "arranged to automatically focus on a determined region of the field of view without moving the camera." By contrast, *Chim* does not disclose this limitation as explained above. For at least this reason, it is requested that the rejection of claim 12 be withdrawn.

Claim 21

Claim 21 is directed toward a method of altering a focus location for camera that includes the step of "causing the camera to focus on the focus region without moving the camera." By contrast, *Chim* does not disclose this limitation as explained above. Respectfully, it is pointed out that the disclosure at column 6 cited in the Office action for the rejection of claim 21 only refers to not repositioning the camera in the context of scaling and cropping. There is no discussion of causing the camera to focus on a particular region without moving the camera. For at least this reason, it is requested that the rejection of claim 21 be withdrawn.

Claim 44

Claim 44 is directed toward a video conferencing system having two computers. Each computer has a camera and a monitor for viewing video input from the other computer. Once a user of the first computer selects a region of interest from the video input from the second computer, the "second camera then automatically focuses itself so that the second video input is focused on the region of interest without moving said second camera." By contrast, *Chim* does not disclose this limitation as explained above. Further, the Office action does not cite any portion of *Chim* as disclosing the above feature of claim 44. For at least this reason, it is requested that the rejection of claim 44 be withdrawn.

Claim 49

Claim 49 is directed toward a computer readable medium having code for directing media content input. The computer code receives the media content input from a media content capturing device (such as a video camera). Once a user-specified region of interest is received, the claim requires:

computer program code for processing a media content input into a media content display window based on a user-specified region of interest without moving said media content capturing device, wherein the user-specified region of interest is specified by the user by selecting a region within the media content display window.

Thus, the media content input is processed based upon the specified region of interest without moving the media content capturing device. By contrast, *Chim* does not disclose this limitation as explained above. *Chim* either discloses panning and tilting a camera to follow a speaker or using scaling and cropping to improve an image. For at least this reason, it is requested that the rejection of claim 49 be withdrawn.

Claim 32

In a second embodiment of the invention, directional audio pickup is used to target the audio pickup from a particular audio direction without moving the video camera or the microphones. Figures 4G, 4H and 4I illustrate focusing on a particular audio direction without moving a camera or microphones. Paragraph 51 describes that the ability to provide audio directions for sound input is achieved using digital signal processing of the audio inputs from the numerous microphones. Paragraphs 61 and 62 also describe focusing (or targeting) the audio input.

Claim 32 is directed toward a method for processing audio input from numerous microphones. This claim requires not only that the user selects a region of interest, but also that the audio input is processed to target that particular region of interest. Specifically, the claim requires “receiving an indication of a region of interest from a user,” and “processing the audio input to target the audio input towards the region of interest.”

Chim has no disclosure concerning a user selecting a region of interest in order to process audio input, and discloses no techniques for targeting audio input from a particular audio direction. Respectfully, it is noted that the portion cited by the Office action at column 7 only discusses continuously processing the data transmitted by the microphones in order to direct the camera toward the speaker. There is no disclosure of a region of interest being indicated by a user nor targeting the audio input toward that region of interest. For at least these reasons, it is requested that the rejection of claim 32 be withdrawn.

Cortjens et al. Reference

The Office action has also cited this reference as disclosing using a cursor to select an area of interest in order to focus upon a particular region. Respectfully, it is pointed out that this reference (especially at the cited column 17) requires that the camera must move in order to center upon the area of interest ("the appropriate pan and tilt for a camera"). Thus, even though it is disclosed that the camera might refocus, if necessary, the camera must still physically move, which is to be contrasted with various of the above independent claims that require that the camera not move.

Dependent Claims

Since the dependent claims depend from the independent claims, it is respectfully submitted that they are each patentable over the art of record for at least the same reasons as set forth above with respect to the independent claims. Claims 2-11 depend from independent claim 1; claims 13-20 depend from independent claim 12; claims 24-31 depend from independent claim 21; claims 33-43 depend from independent claim 32; claims 46-48 depend from independent claim 44; claims 53-55 depend from independent claim 49; it is submitted that each of these dependent claims is now patentable.

Further, each of the dependent claims require additional features that when considered in light of the claimed combination further distinguish the claimed invention from the art of record. For example, claim 20 specifically requires that the audio input is processed to emphasize audio sound from the determined region. Also, claim 35 requires capturing audio from the region of interest while attempting to reject audio from other regions. Claim 36 requires beam forming and beam steering operations. Claim 47 requires processing the second audio input to emphasize audio sound from the region of interest.

Reconsideration of this application and issuance of a Notice of Allowance at an early date are respectfully requested. If the Examiner believes a telephone conference would in any way expedite prosecution, please do not hesitate to telephone the undersigned at (612) 252-3330.

Respectfully submitted,
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